

CLAIMS

1. A method for controlling production process comprising

taking an absorbance spectrum for each of a plurality of standard samples collected from a production process step in an analysis range including near-infrared region,

constructing a data base by calculating standard deviations and the average intensity of the standard samples (standard average intensity) in respect of each wave length selected from the spectrum included in the said analysis range,

taking an absorbance spectrum in the said analysis range for each analysis sample collected from the production process step and comparing the resulting absorbance spectrum with the data base,

estimating deviation (analysis deviation) of the intensity of the absorbance spectrum of each of the analysis samples (analysis intensity) at each of the said selected wave lengths from the standard average intensity,

comparing, when the absorbance spectrum includes wave length(s) at which the analysis deviation of the absorbance spectrum of the analysis sample is outside a tolerance limit, the wave length showing the analysis deviation of the absorbance spectrum outside the tolerance limit with production informations given preliminarily in the data base to thereby obtain control data and

performing the control so as to obtain production product within the tolerance limit by inputting the said control data to the production process step.

2. The method as claimed in claim 1, wherein the production informations stored in the data base are those of the component material corresponding to the said selected wave lengths.

3. The method as claimed in claim 1 or 2, wherein the deviations (analysis deviations) of the analysis intensities from the standard average intensity are discriminated as to whether or not they are within the tolerance limit determined based on the standard deviations given in the data base for the standart samples.

4. The method as claimed in any one of claims 1 to 3, wherein the said analysis range is from 800 nm to 2,500 nm.

5. The method as claimed in claim 4, wherein the said analysis range is from 400 nm to 2,500 nm.

6. The method as claimed in any one of claims 1 to 5, wherein the selected wave lengths stand each other at a distance of 10 nm or less.

7. The method as claimed in claim 6, wherein the selected wave lengths stand each other at a distance of 2 nm or less.

8. The method as claimed in any one of claims 1 to 7, wherein the absorbance spectrum is processed by differentiation.

9. The method as claimed in claim 8, wherein the

absorbance spectrum is processed by building up the second derivative thereof.

10. The method as claimed in any one of claims 1 to 9, wherein the data base is constructed from a plurality of standard samples of a plurality of kinds, by calculating the standard average intensity and standard deviations for each kind.

11. The method as claimed in any one of claims 1 to 10, wherein absorbance spectra are obtained for a plurality of the analysis samples and estimating the deviations of average intensities of the analysis samples (analysis average intensity) at the selected wave lengths from the standard average intensity.